



Submitted via email to [VWsettle@tceq.texas.gov](mailto:VWsettle@tceq.texas.gov)

October 8, 2018

Commissioner Jon Niermann  
Texas Commission on Environmental Quality  
Air Quality Division  
Implementation Grants Section, MC-204  
P.O. Box 13087  
Austin, TX 78711-3087

Re: Using Texas' Volkswagen Settlement Funds for Alternative Fueled Vehicles

Dear Commissioner Niermann,

As the President of ROUSH CleanTech (ROUSH),<sup>1</sup> I write to thank the Texas Commission on Environmental Quality (TCEQ) for the opportunity to comment on the Draft Beneficiary Mitigation Plan for Texas (draft plan). Alternative fuel vehicles provide Texas with the opportunity to dramatically decrease NOx emissions over even the cleanest diesel vehicles in addition to providing fleet organizations with lifetime economic and other indirect benefits. Alternative fuel school buses, transit buses and class 4-7 vehicles in particular offer a cost-effective strategy today to reduce NOx emissions and improve public health. ROUSH would like to support your efforts through the assistance of our partnerships including a national network of Blue Bird, Ford and other local dealerships. Over 12,000 propane-fueled school buses in more than 800 school districts nationwide have been deployed by Blue Bird dealers such as Rush Bus Centers in Texas. Collectively, ROUSH partners have helped deploy over 19,000 alternative fuel vehicles (propane and natural gas) that have accumulated over 450 million miles.

As one of the leading manufacturers and suppliers of alternative fuel technology, our company and partners have first-hand knowledge of the necessary demands particular fleet organizations have when implementing new technology. We are also intimately familiar with overcoming barriers and ensuring customer success through careful planning and after-market support. For these reasons, we have provided some background information and data to support our recommended additions to the draft plan, below. We respectfully request TCEQ consider the following modifications:

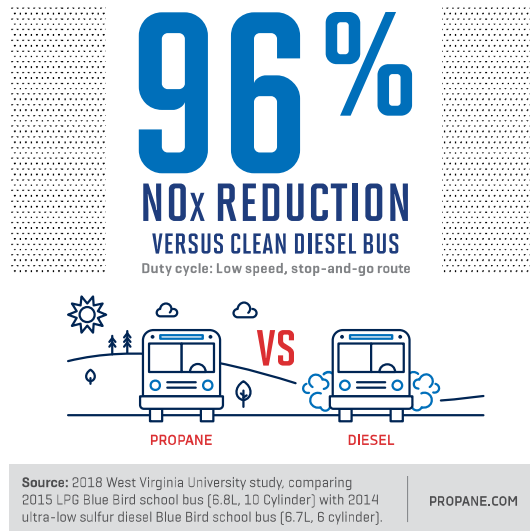
**1. Consider Set-Asides for Alternative Fuels within Mitigation Action Categories**

Based on experience participating in numerous school bus funding programs across the country, we have seen a trend of school districts choosing clean diesel over alternative fuels in a program structured as first come, first served and without greater incentives for alternatives to diesel. The latest round of TERP Clean School Bus funding reinforces this fact: the vast majority of funding went to diesel school buses.

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<sup>1</sup> ROUSH CleanTech is an industry leader of alternative fuel vehicle technology focused on developing innovative and reliable advanced clean transportation solutions for fleets across North America. CleanTech's portfolio of products include propane and natural gas fuel systems and electric propulsion systems for medium-duty vehicles and school buses.

Additionally, new in-use emissions testing results are showing that despite meeting the same emissions standards for certification, “clean” diesel is producing as much as 26 times more NO<sub>x</sub> emissions in a typical school bus duty cycle (see *Figure 1*).



*Figure 1. Summary of West Virginia University study comparing a 2015 propane school bus with a 2014 diesel school bus.*

For these reasons, we encourage TCEQ to set-aside at least \$75M for a Clean School Bus Program, similar to the current TCEQ program. However, the program would have a specific \$35M alternative fuel focused sub-program and would be limited to fuel sources that are alternatives to diesel and gasoline.

Furthermore, we respectfully request the same consideration of alternative fuel set-asides be given to the class 4-7 local freight truck and the transit and shuttle bus programs outlined in the draft plan.

## **2. Use the Most Current Emissions and Cost Benefit Calculation Tools**

The Argonne National Laboratory’s AFLEET tool should be used to calculate vehicle / fuel type emissions since this tool has recently been updated to include current data on all vehicles and fuels including in-use emissions data. The AFLEET Tool 2017 update includes:

- Added low-NO<sub>x</sub> engine option for LPG and CNG vehicles
- Added diesel in-use emissions multiplier sensitivity case
- Added Idle Reduction Calculator to estimate the idling petroleum use, emissions and costs for light- and heavy-duty vehicles
- Added well-to-pump air pollutants and vehicle cycle petroleum use, GHGs, and air pollutants
- Added more renewable fuel options
- AFLEET Tool spreadsheet and user manual



ROUSH's model year 2019 propane engine recently received its California Air Resources Board certification at 0.02 grams NOx per brake horsepower-hour (g/bhp-hr).<sup>2</sup> As an example, this means that ROUSH's new propane engine is 90% cleaner than today's cleanest diesel bus and 99% cleaner than the oldest, pre-2007 buses operating in many school districts.<sup>3</sup> The EPA DEQ and other modeling programs do not account for these new certifications achieved by our company and others nor do they account for in-use emissions.

These cleaner buses will significantly reduce our student's exposure to emissions that are associated with pre-2007 diesel buses, including increased asthma emergencies, bronchitis, and school absenteeism, especially among asthmatic children.<sup>4</sup> Gaseous fuel school buses effectively eliminate diesel particulate matter emissions that are associated with cancer and thousands of premature deaths nationwide every year. These vehicles are also a safe transportation solution. Propane is non-toxic, non-carcinogenic and non-corrosive, and vehicle fuel tanks are 20 times more puncture-resistant than gasoline or diesel tanks.<sup>5</sup>

Given the first and second goals of the draft plan are to reduce NOx and especially within communities where emission sources may concentrate, we think considerable thought should be given to funding alternative fuel vehicles over diesel. Furthermore, emissions calculations should reflect actual in-use emissions implications. *Figure 1* above was based on an average of stop and go route test results. The diesel school bus averaged 5.2 g/mile while the propane bus averaged 0.1 g/mile.

Gaseous fueled and other alternative fuel vehicles can be a smart investment for Texas as well as they can yield tremendous fiscal benefits, including operations and maintenance savings of \$0.61 per mile, as compared to diesel.<sup>6</sup> Propane school buses, transit and class 4-7 vehicles in particular can thus support the state's efforts to achieve cost-effective NOx emissions reductions, as well as provide metropolitan areas with a much needed economic boost through a challenging budget environment. Last, a sustainable and cost savings alternative fuels program would exist for fleets after the funding is exhausted because propane and compressed natural gas are proven alternatives in Texas.

We appreciate your consideration and welcome any questions or additional discussion.

Sincerely,

A handwritten signature in dark ink that reads "Todd a. Mouw". The signature is fluid and cursive, with a long horizontal stroke at the end.

Todd Mouw  
President  
ROUSH CleanTech

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<sup>2</sup> "Executive Order A-344-0074". California Environmental Protection Agency, Air Resources Board, May 15, 2017. [https://www.arb.ca.gov/msprog/onroad/cert/mdehdehdv/2017/roush\\_hdoe\\_a3440074\\_6d8\\_0d05\\_lpg.pdf](https://www.arb.ca.gov/msprog/onroad/cert/mdehdehdv/2017/roush_hdoe_a3440074_6d8_0d05_lpg.pdf).

<sup>3</sup> For model year 1998 to 2003 diesel engines, EPA established a NOx emission standard of 4.0 g NOx / bhp-hr. Please refer to EPA's [summary table](#) of diesel engine exhaust emission standards for further detail.

<sup>4</sup> Adar, S. et al. "Adopting Clean Fuels and Technologies on School Buses. Pollution and Health Impacts in Children." *ATS Journals*, Volume 191, Issue 12. <http://www.atsjournals.org/doi/abs/10.1164/rccm.201410-1924OC#.WA-HINUrJhE>, June 2015.

<sup>5</sup> "Propane Autogas – Safe and Reliable." Blue Bird. <https://www.blue-bird.com/blue-bird/Propane-is-safe.aspx>.

<sup>6</sup> "Propane Testimonials." Blue Bird. <http://www.blue-bird.com/blue-bird/propane-testimonials.aspx>.